Fact Sheet

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Force-on-Force Exercises at Nuclear Power Plants

The Nuclear Regulatory Commission (NRC), as part of its comprehensive security program, has regularly carried out Force-on-Force exercises at operating nuclear power plants since 1991. Force-on-Force exercises are conducted to assess and improve, as necessary, performance of defensive strategies at licensed facilities. These exercises have been and are intended to be a primary means to conduct performance-based testing of a licensee''s security force and its ability to prevent radiological sabotage as required by NRC regulations (10 CFR Part 73). Force-on-Force exercises are also part of a robust network of the NRC''s security oversight program.

Prior to September 11, 2001, each of the 65 sites nationwide had an Operational Safeguards Response Evaluation (OSRE), the NRC''s term for the exercises, once every eight years. These exercises were conducted at approximately eight sites per year. Force-on-Force security exercises were suspended after the September 11 attacks because the conduct of such exercises would have been a significant distraction to licensee security forces which were at NRC''s highest level of alert. NRC security staff instead focused on strengthening and monitoring security improvements implemented by licensees in response to NRC advisories.

As part of the Commission''s enhancements in its security programs since the September 11, 2001, terrorist attacks in New York and Washington, D.C., the Commission has decided to conduct approximately 22 Force-on-Force exercises per year starting in fiscal year 2004, so that each site''s security will have an exercise at least once every three years. In addition, licensees will conduct a number of tactical response team security drills in the intervening period, consistent with NRC''s April 29, 2003 training Order.

The Commission decided in July 2002 to reinstate the table-top component of Force-on-Force exercises given that the February 25, 2002 Order was almost fully implemented. These exercises include a wide array of Federal, State and local law enforcement and emergency planning officials in addition to licensee and NRC personnel. In the table-top exercises NRC security,

emergency preparedness and operations specialists evaluate the effectiveness of licensee security plans against a series of attack scenarios at a mock-up of the facility. In general terms, the adversary force, for these scenarios, is assumed to be well-trained and well-equipped. Table-top exercises were carried out at seven nuclear power plant sites between July and December 2002. These exercises evaluated the licensee security forces against enhanced adversary force capabilities consistent with the Commission''s February 25, 2002 Order. The details of the enhanced adversary force characteristics are Safeguards Information, available only to authorized individuals with a need to know. The disclosure of Safeguards Information is subject to civil and criminal penalties under the Atomic Energy Act.

In February 2003, the Commission decided to establish an expanded Force-on-Force exercise pilot program. The full exercise, which includes table-top and Force-on-Force exercises, is conducted over a period of several days. First, NRC security, emergency preparedness and operations specialists conduct table-top exercises in which they evaluate the effectiveness of licensee security plans against a series of attack scenarios. The role of Federal, State, and local law enforcement and emergency planning officials is also discussed in this phase of the exercise. Exercise coordinators learn the number of defenders, their defensive positions and their defensive strategies. In the second phase, armed with information from the table-tops, and with information gathered prior to the table-tops, detailed plans are made for a number of commando-style attacks seeking to probe for potential deficiencies in the defensive strategy. A mock adversary force carries out these attacks. The aim of the site''s defenders is to keep the attackers from destroying or damaging key safety equipment.

New techniques and equipment will be used to conduct the full Force-on-Force exercises. Among the enhancements being tested is the use of Multiple Integrated Laser Equipment System (MILES), which was developed for the armed forces. MILES equipment uses a laser to simulate bullets and is useful in realistically assessing hits and misses.

The NRC is planning to conduct over a dozen exercises in the pilot phase of the expanded Force-on-Force program, and is currently conducting about two per month. The adversary characteristics being exercised remain those of the February 25, 2002 Order until the revised design basis threat (DBT), which the Commission ordered on April 29, 2003, is fully implemented on October 29, 2004. However, the staff will exercise elements of the April 29, 2003 DBT to the extent a licensee has already amended its protective strategy to defend against those elements.

The NRC notifies licensees in advance of Force-on-Force exercises for safety and logistical purposes and to provide adequate planning time for coordination of the efforts of two sets of security officers — one for maintaining actual security, another for participating in the exercise. In addition, arrangements must be made for a group of individuals who will control and monitor the exercise. A key goal is to balance personnel safety, while maintaining actual plant security during the exercise, with enhanced realism by reducing artificialities.

The NRC ensures that any potentially significant deficiencies in the defensive strategy identified during the pilot Force-on-Force exercises are promptly reviewed, and properly addressed.

The ongoing pilot program is focused on identifying elements of the Force-on-Force process that should be improved. When the pilot program is completed and evaluated, a new program of Force-on-Force exercises will be established by the NRC. Results of the expanded Force-on-Force exercises pilot program are expected to help the NRC:

- Determine the performance-based components of the exercise, including hardware, procedures and artificialities;
- Gauge the effectiveness of enhanced security measures at nuclear power plants against enhanced adversary characteristics;
- Establish interaction protocols with other Federal, State and local law enforcement agencies likely to be involved in the overall protection of nuclear power plants;
- Design a program for full implementation of Force-on-Force exercises.

The Force-on-Force exercises have been and are intended to be a primary means to conduct performance-based testing of a licensee''s security force and its ability to prevent radiological sabotage. However, they represent only one aspect of assessing compliance with NRC security requirements. The NRC''s security oversight program provides an overall assessment of plant security.

See also: Frequently Asked Questions about Force-On-Force Security Exercises at Nuclear Power Plants.

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